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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/808,672

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Matthew K. Schwiebert

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EXAMINER

BLEVINS, JERRY M

ART UNIT

PAPER NUMBER

2883

DATE MAILED: 02/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/808,672

Applicant(s)

SCHWIEBERT ET AL.

Examiner

Jerry Martin Blevins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-10 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-10 and 12-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments, see page 7, filed 12/08/2005, with respect to objection to claims 15, 17, and 19 have been fully considered and are persuasive. The objection of claims 15, 17, and 19 has been withdrawn.

Applicant's arguments with respect to claims 2-10 and 12-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent to Brezina et al., number 6,540,414 in view of US Patent to Matsuzaki et al., number 5,386,345.

Regarding claim 2, Brezina teaches a fiber optic module, comprising an electromagnetic interference (EMI) shield (Figures 9-11, element 16) comprising conductive contact fingers (Figures 9 and 10, element 17 and column 11, lines 26-45); and a first housing (Figures 1-4 and 7, element 10) insert molded with the EMI shield (column 11, lines 9-51). Brezina does not teach a conductive mesh. Matsuzaki teaches

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an EMI shield (Figure 4) comprising a conductive mesh (element 4) defining small openings (diamond shaped openings) that shield EMI and at least one large opening (8) that allows a connector (Figure 5, element 12) to pass through the conductive mesh. Although the connector of Matsuzaki is not a fiber optic connector, the opening allows for the passage of a fiber optic connector. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Brezina with the conductive mesh EMI shield of Matsuzaki. The motivation would have been to improve efficiency and reduce costs of the EMI shield.

Regarding claim 12, Brezina teaches a method for making a fiber optic module, comprising forming an electromagnetic interference (EMI) shield (Figures 9-11, element 16) comprising forming conductive contact fingers (Figures 9 and 10, element 17 and column 11, lines 26-45); and insert-molding a first housing (Figures 1-4 and 7, element 10) with the EMI shield (column 11, lines 9-51). Brezina does not teach forming a conductive mesh. Matsuzaki teaches an EMI shield (Figure 4) comprising a conductive mesh (element 4) defining small openings (diamond shaped openings) that shield EMI and at least one large opening (8) that allows a connector (Figure 5, element 12) to pass through the conductive mesh. Although the connector of Matsuzaki is not a fiber optic connector, the opening allows for the passage of a fiber optic connector. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Brezina with the formation of the conductive mesh EMI shield of Matsuzaki. The motivation would have been to improve efficiency and reduce costs of the formation of the EMI shield.

Claims 3, 4, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brezina in view of Matsuzaki as applied to claims 2 and 12 above, and further in view of US Patent to Svarfvar et al., number 6,738,265.

Regarding claim 3, Brezina in view of Matsuzaki teaches the limitations of the base claim 2. Brezina does not teach that the EMI shield comprises conductive shield sidewalls around the mesh, the contact fingers extending from the shield sidewalls. Svarfvar teaches that an EMI shield comprises conductive shield sidewalls around a mesh (Figure 9, elements 46, 48, 50 and column 5, lines 42-67). Svarfvar also teaches contact fingers (Figure 19, element 226 and column 8, line 49 – column 9, line 5) extending from the sidewalls. It would have been obvious to one of ordinary skill in the art to modify Brezina with the conductive shield sidewalls and extending contact fingers of Svarfvar. The motivation would have been to improve electrical contact capabilities for the purpose of effectuating the necessary EMI shielding (Svarfvar, column 5, lines 59-64).

Regarding claim 13, Brezina in view of Matsuzaki teaches the limitations of the base claim 12. Brezina does not teach that forming the EMI shield comprises forming conductive shield sidewalls around the mesh, wherein the forming contact fingers comprises forming contact fingers extending from the shield sidewalls. Svarfvar teaches that an EMI shield comprises conductive shield sidewalls (Figure 9, elements 46, 48, 50 and column 5, lines 42-67). Svarfvar also teaches contact fingers (Figure 19, element 226 and column 8, line 49 – column 9, line 5) extending from the sidewalls. It would have been obvious to one of ordinary skill in the art to modify Brezina with the

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formation of conductive shield sidewalls and the formation of extending contact fingers of Svarfvar. The motivation would have been to improve electrical contact capabilities for the purpose of effectuating the necessary EMI shielding (Svarfvar, column 5, lines 59-64).

Regarding claims 4 and 14, Brezina in view of Matsuzaki teaches the limitations of the base claims 2 and 12, respectively. Brezina does not teach that the first housing is injection molded through the mesh of the EMI shield. Svarfvar teaches that a housing is injection molded through the mesh of an EMI shield (Figure 17 and column 8, lines 5-24). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Brezina with the injection molded housing of Svarfvar. The motivation would have been to improve electrical contact capabilities for the purpose of effectuating the necessary EMI shielding (Svarfvar, column 8, lines 14-24).

Claims 5-9 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brezina in view of Matsuzaki and further in view of Svarfvar as applied to claims 4 and 14 above, and further in view of US Patent to Chiu et al., number 6,832,856.

Regarding claim 5, Brezina in view of Matsuzaki and further in view of Svarfvar teaches the limitations of the base claim 4. Brezina also teaches that the first housing comprises a non-conductive housing floor and non-conductive housing sidewalls (Figures 1-10). Brezina does not teach a non-conductive nose defining at least one receptacle, wherein the housing floor and the housing sidewalls are injection molded through the mesh of the EMI shield to be integral with the nose and so that the shield

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sidewalls and the contact fingers at least partially surround the nose. Chiu teaches a non-conductive nose defining at least one receptacle (Figures 10a-g, element 704), wherein an EMI shield (708) is integral with the nose so that the shield sidewalls (708) and the contact fingers (714) at least partially surround the nose. As stated above in the rejections of claims 4 and 14, Svarfvar teaches that the housing is injection molded through the mesh of the EMI shield (Figure 17 and column 8, lines 5-24). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Brezina with the non-conductive nose of Chiu. The motivation would have been to improve the ability to remove faulty modules from the receptacle (Chiu, column 1, line 42 – column 2, line 22).

Regarding claim 15, Brezina in view of Matsuzaki and further in view of Svarfvar teaches the limitations of the base claim 14. Brezina also teaches that the first housing comprises a non-conductive housing floor and non-conductive housing sidewalls (Figures 1-10). Brezina does not teach a non-conductive nose defining at least one receptacle, wherein the housing floor and the housing sidewalls are injection molded through the mesh of the EMI shield to be integral with the nose and so that the shield sidewalls and the contact fingers at least partially surround the nose. Chiu teaches a non-conductive nose defining at least one receptacle (Figures 10a-g, element 704), wherein an EMI shield (708) is integral with the nose so that the shield sidewalls (708) and the contact fingers (714) at least partially surround the nose. As stated above in the rejections of claims 4 and 14, Svarfvar teaches that the housing is injection molded through the mesh of the EMI shield (Figure 17 and column 8, lines 5-24). It would have

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been obvious to one of ordinary skill in the art at the time of the invention to modify Brezina with the non-conductive nose of Chiu. The motivation would have been to improve the ability to remove faulty modules from the receptacle (Chiu, column 1, line 42 – column 2, line 22).

Regarding claim 6, Brezina in view of Matsuzaki and further in view of Svarfvar and further in view of Chiu teaches the limitations of the base claim 5. Brezina also teaches an optoelectronic subassembly mounted in the first housing (column 5, lines 24-35); and a second housing mounted to the first housing to enclose the optoelectronic subassembly (column 4, lines 50-59 and column 11, lines 46-51).

Regarding claim 7, Brezina in view of Matsuzaki and further in view of Svarfvar and further in view of Chiu teaches the limitations of the base claim 16. Brezina also teaches that the optoelectronic subassembly comprises a circuit board; at least one optical subassembly mounted on the circuit board; and at least one connector interface (column 6, lines 28-40 and column 19, lines 13-28).

Regarding claim 8, Brezina in view of Matsuzaki and further in view of Svarfvar and further in view of Chiu teaches the limitations of the base claim 7. Brezina also teaches receiving a fiber optic connector (column 3, lines 34-54 and column 8, line 50 – column 9, line 11). Brezina does not teach that the at least one connector interface abuts the mesh about at the at least one large opening. Matsuzaki teaches abutting at least one connector interface to the mesh about at the at least one large opening for receiving a connector (Figure 5). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Brezina with the mesh opening and

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interface abutting to about at least the mesh opening of Matsuzaki. The motivation would have been to improve connection to the fiber optic connector (Brezina, column 3, lines 34-54 and column 8, line 50 – column 9, line 11).

Regarding claim 16, Brezina in view of Matsuzaki and further in view of Svarfvar and further in view of Chiu teaches the limitations of the base claim 15. Brezina also teaches mounting an optoelectronic subassembly in the first housing (column 5, lines 24-35); and mounting a second housing to the first housing to enclose the optoelectronic subassembly (column 4, lines 50-59 and column 11, lines 46-51).

Regarding claim 17, Brezina in view of Matsuzaki and further in view of Svarfvar and further in view of Chiu teaches the limitations of the base claim 16. Brezina also teaches that the optoelectronic subassembly comprises a circuit board; at least one optical subassembly mounted on the circuit board; and at least one connector interface (column 6, lines 28-40 and column 19, lines 13-28).

Regarding claim 18, Brezina in view of Matsuzaki and further in view of Svarfvar and further in view of Chiu teaches the limitations of the base claim 17. Brezina also teaches that the mounting an optoelectronic subassembly in the first housing comprises receiving a fiber optic connector (column 3, lines 34-54 and column 8, line 50 – column 9, line 11). Brezina does not teach that the mounting an optoelectronic subassembly in the first housing comprises abutting the at least one connector interface to the mesh about at the at least one large opening. Matsuzaki teaches abutting at least one connector interface to the mesh about at the at least one large opening for receiving a connector (Figure 5). It would have been obvious to one of ordinary skill in the art at the

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time of the invention to modify Brezina with the mesh opening and interface abutting to about at least the mesh opening of Matsuzaki. The motivation would have been to improve connection to the fiber optic connector (Brezina, column 3, lines 34-54 and column 8, line 50 – column 9, line 11).

Regarding claims 9 and 19, Brezina in view of Matsuzaki and further in view of Svarfvar and further in view of Chiu teaches the limitations of the base claims 7 and 17, respectively. Brezina does not teach that the at least one connector interface is selected from the group consisting of LC, SC and MTRJ connector interfaces. Chiu teaches a connector interface selected from the group consisting of LC, SC and MTRJ connector interfaces (column 5, lines 47-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Brezina with the LC, SC, and MTRJ connector interfaces of Chiu. The motivation would have been to improve alignment and coupling of optical fibers into the module (Chiu, column 5, lines 36-46).

Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brezina in view of US Pre Grant Publication to Liu et al., number 2005/0152701.

Regarding claims 10 and 20, Brezina teaches the limitations of the base claims 2 and 12, respectively. Brezina does not teach that the module is selected from the group consisting of a SFP transceiver module, a GBIC transceiver module and a 1x9 transceiver module. Liu teaches a SFP transceiver module (page 3, paragraph 29). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Brezina with the SFP transceiver module of Liu. The motivation would have

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been to control the emission of EMI for a variety of optoelectronic devices (Liu, page 3, paragraph 29).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMB



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